

OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

1/29

FIG. 1A

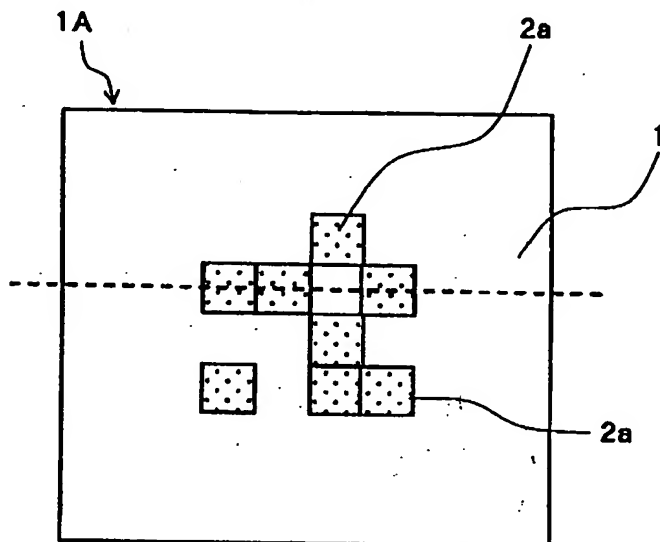


FIG. 1B

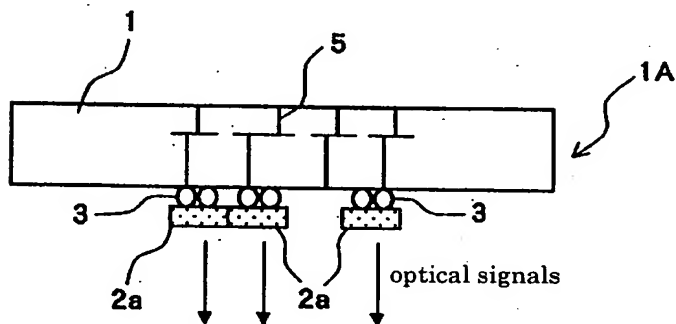
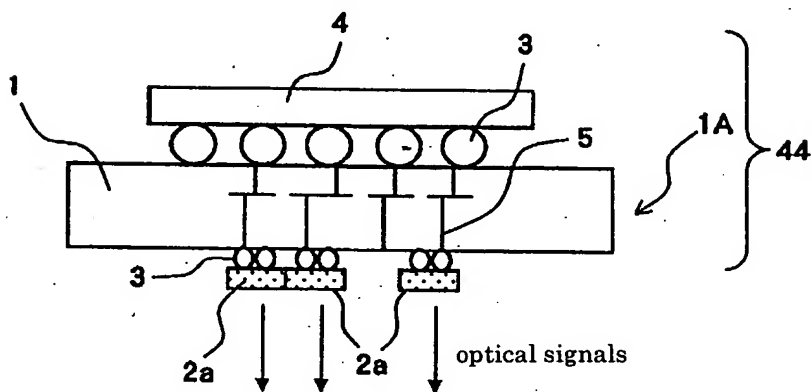


FIG. 1C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

2/29

FIG. 2A

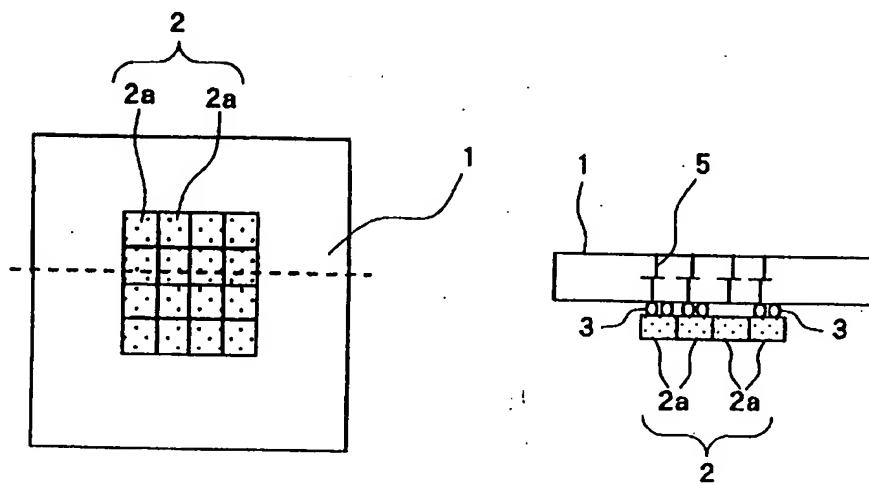


FIG. 2B

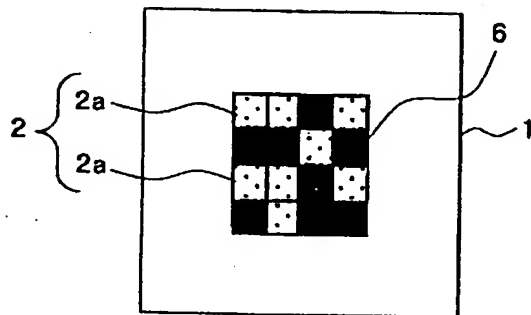
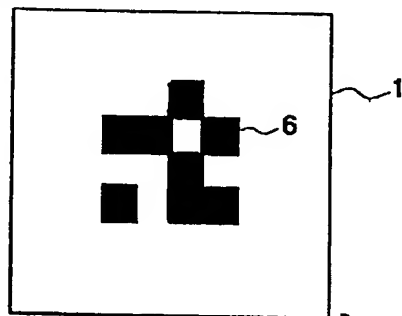


FIG. 2C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

3/29

FIG. 2D

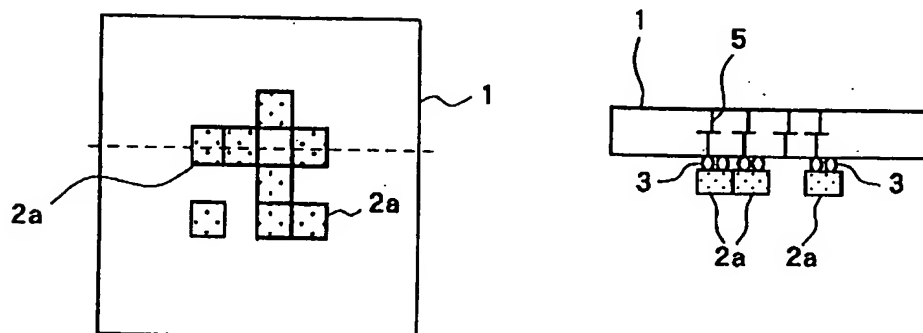


FIG. 3A

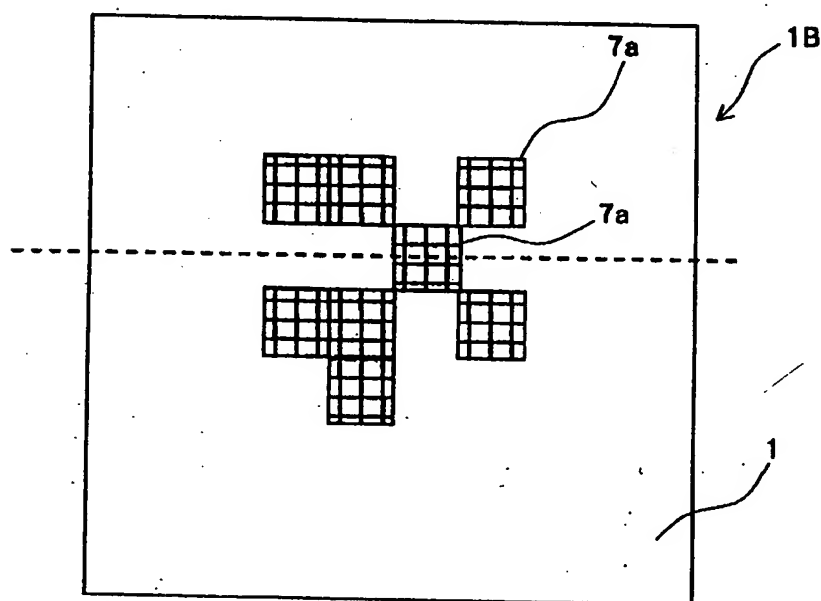
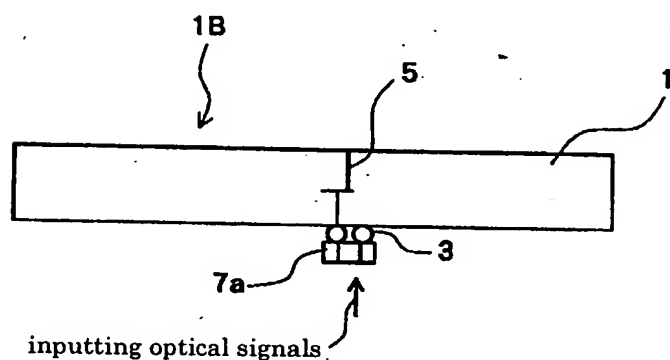


FIG. 3B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

4/29

FIG. 3C

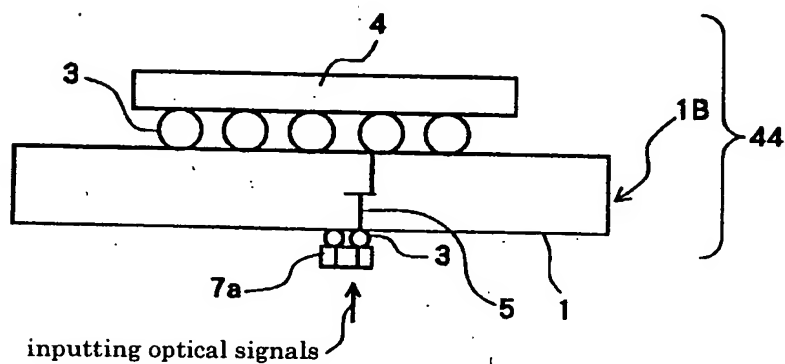


FIG. 4A

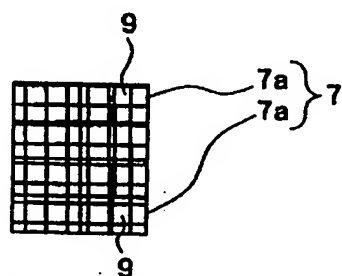


FIG. 4B

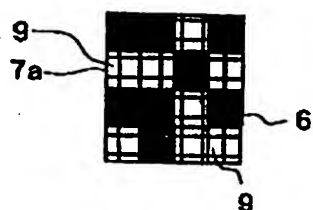
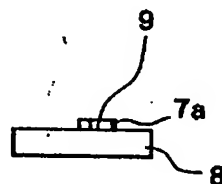
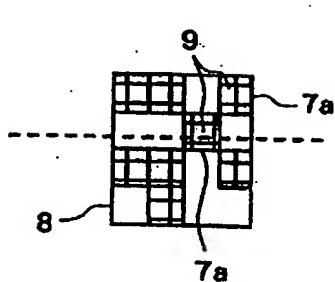


FIG. 4C



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SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

5/29

FIG. 4D

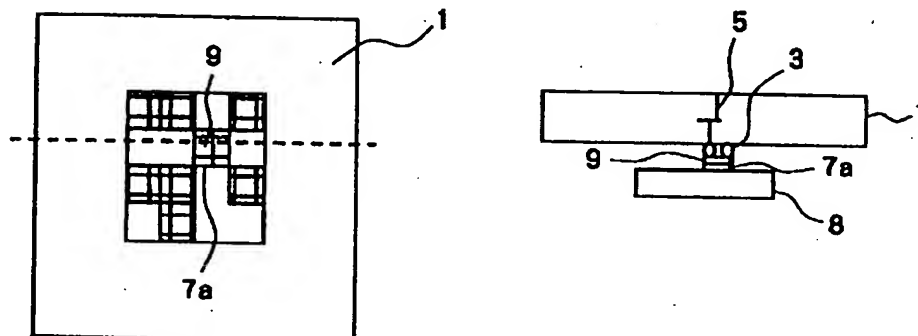


FIG. 4E

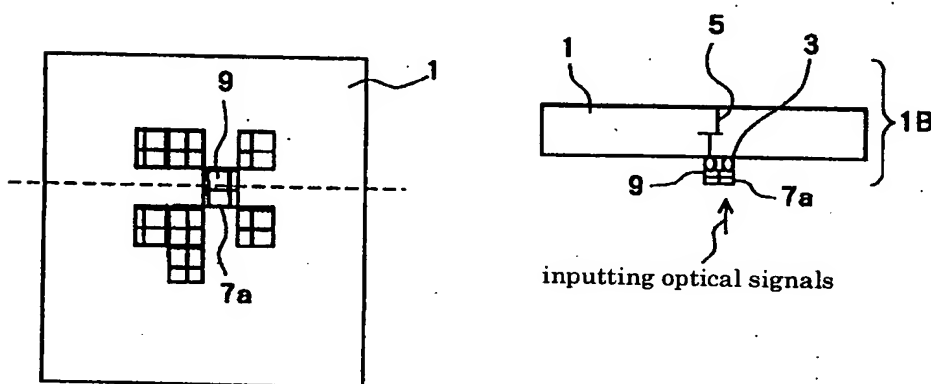


FIG. 5A

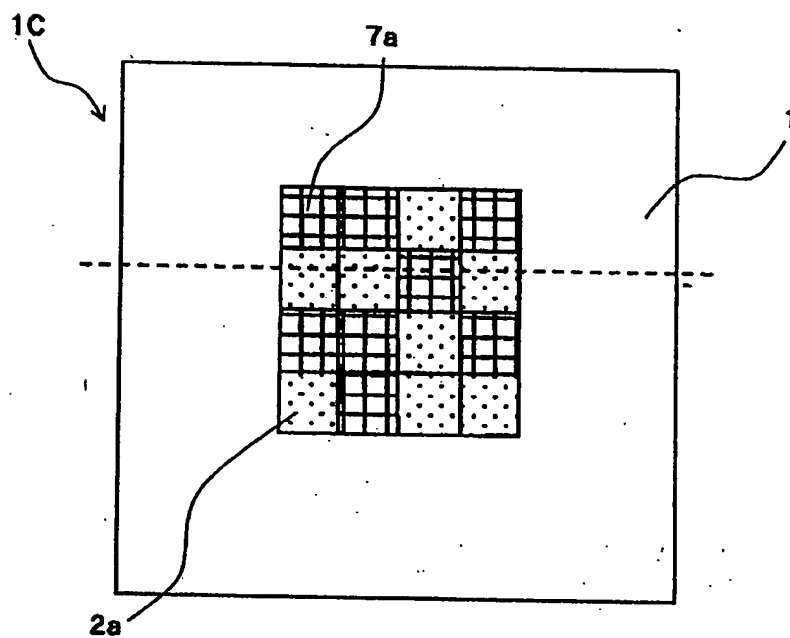


FIG. 5B

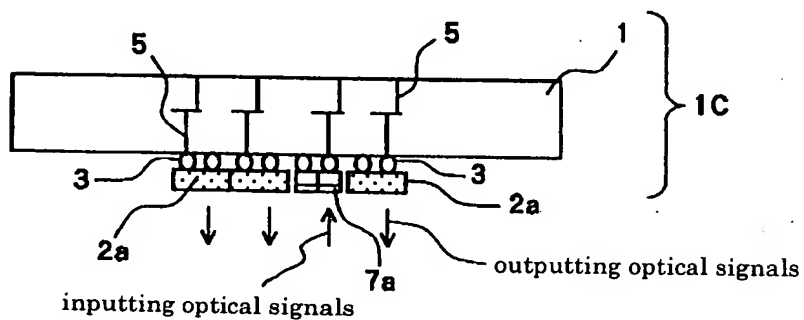


FIG. 5C

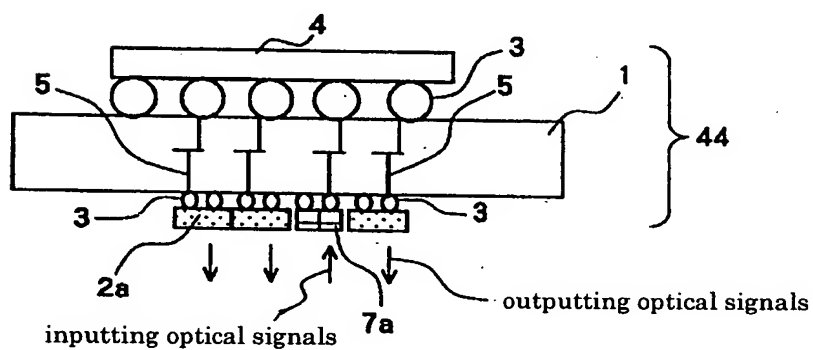
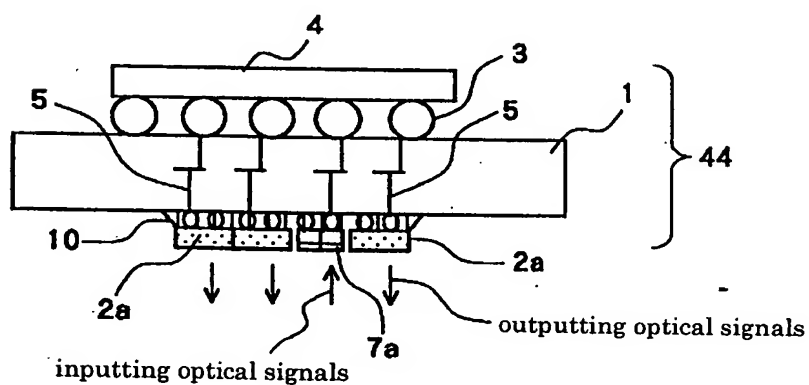


FIG. 5D



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

7/29

FIG. 6A

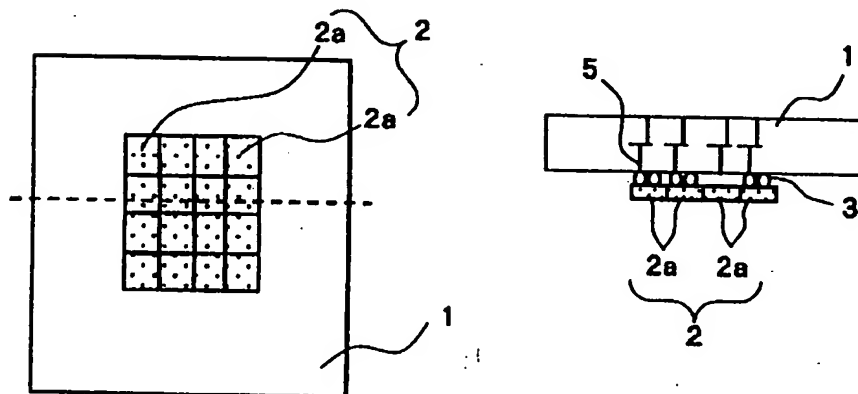


FIG. 6B

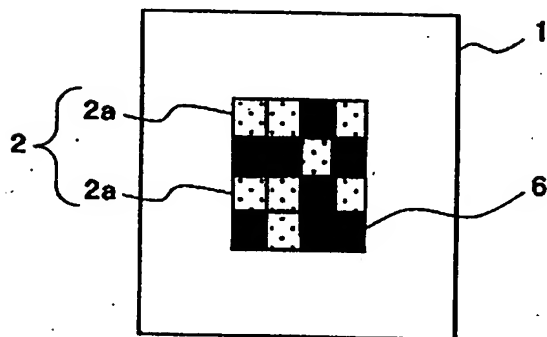
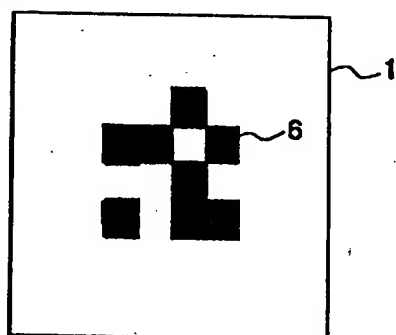


FIG. 6C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

8/29

FIG. 6D

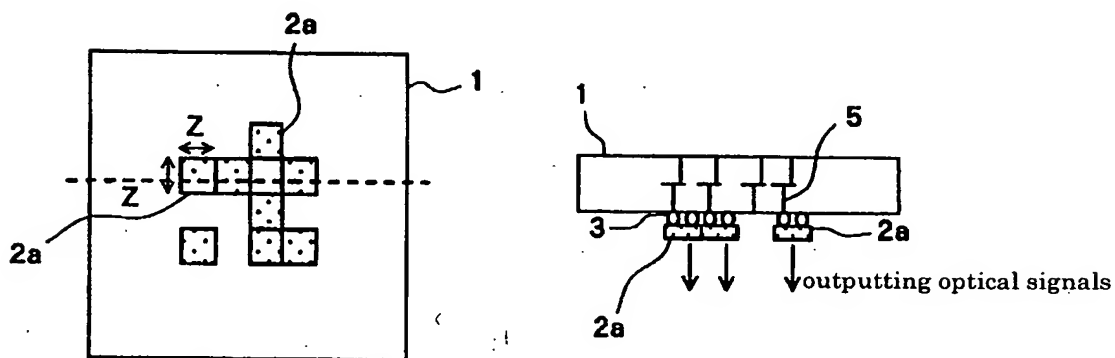


FIG. 6E

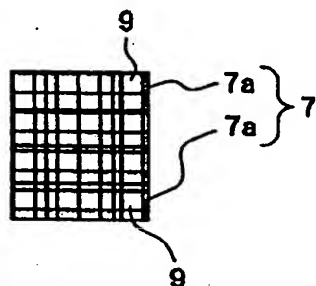


FIG. 6F

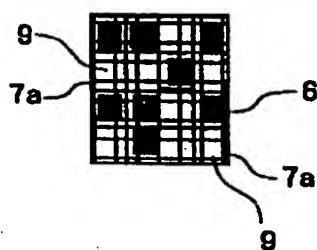
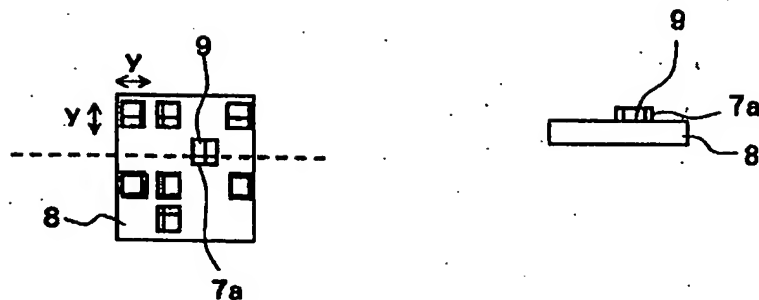


FIG. 6G



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

9/29

FIG. 6H

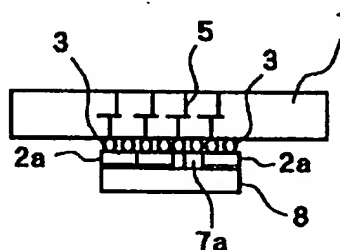
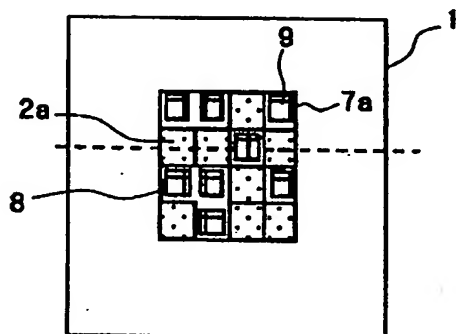


FIG. 6I

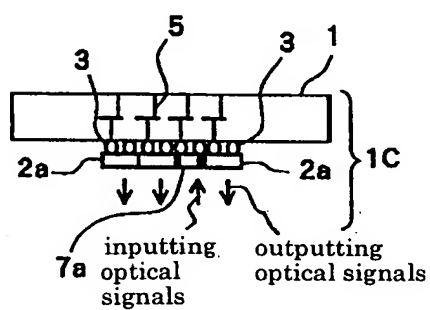
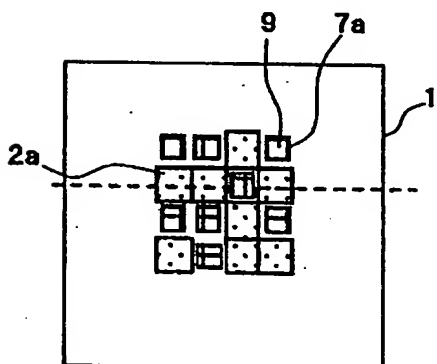
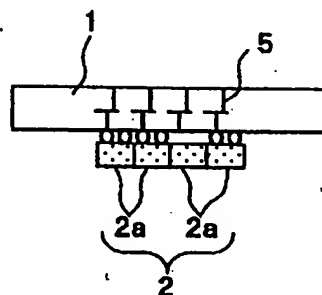
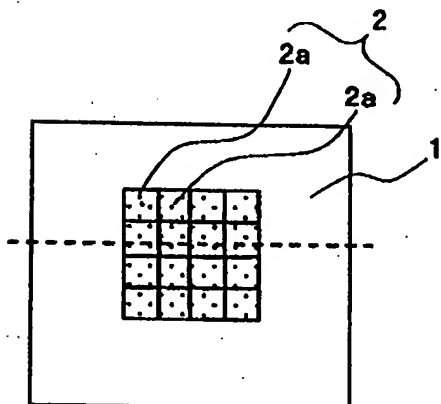


FIG. 7A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

10/29

FIG. 7B -

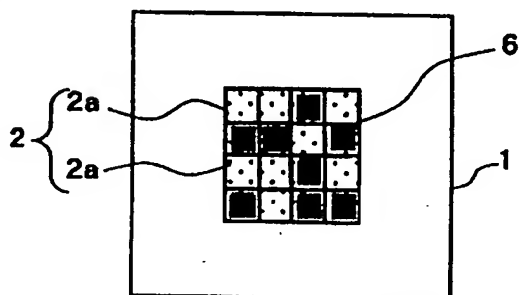


FIG. 7C

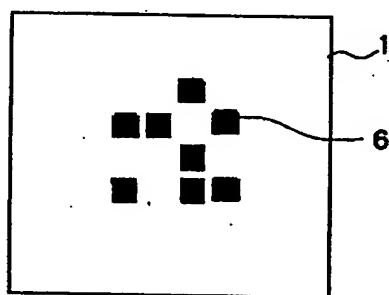


FIG. 7D

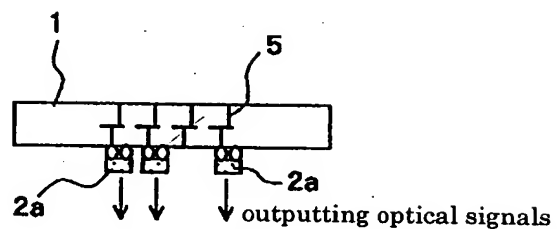
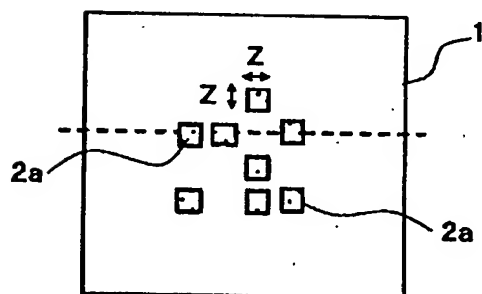
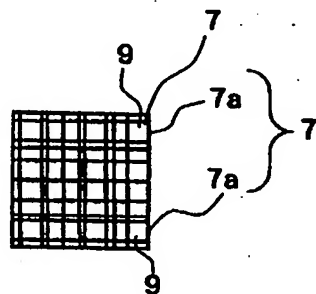


FIG. 7E



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

11/29

FIG. 7F

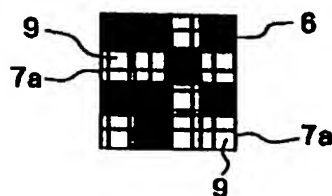


FIG. 7G

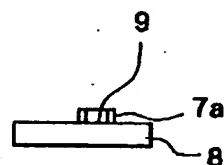
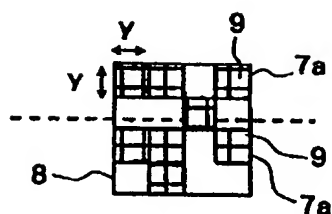


FIG. 7H

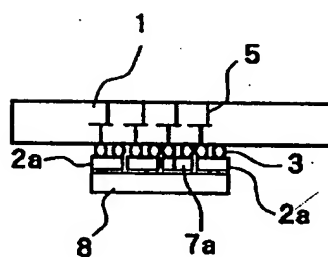
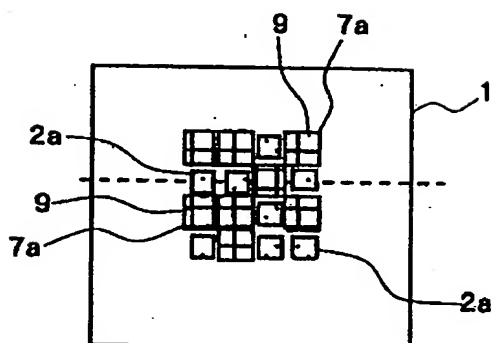
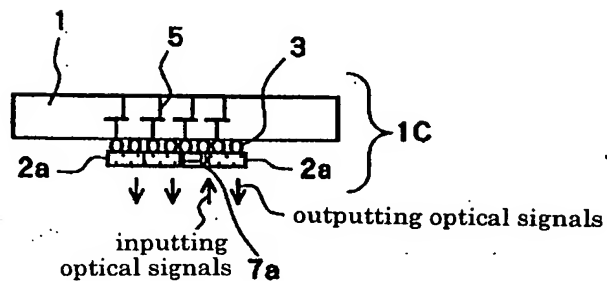
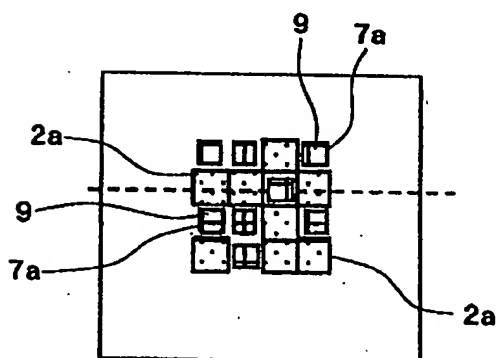


FIG. 7I



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

12/29

FIG. 8A

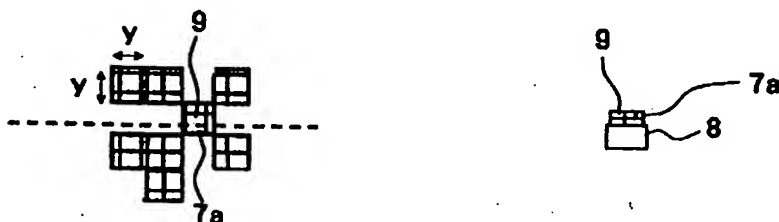


FIG. 8B

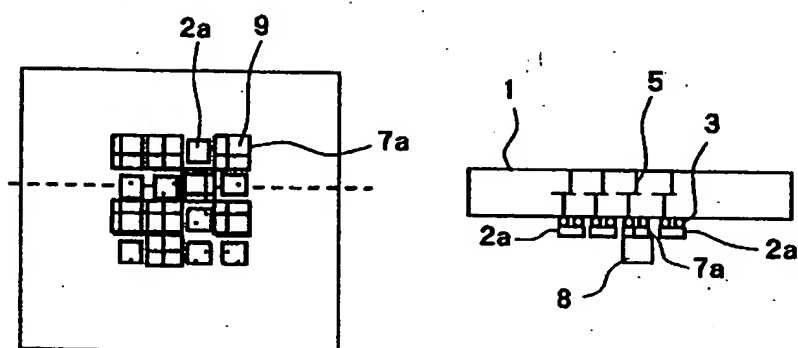


FIG. 8C

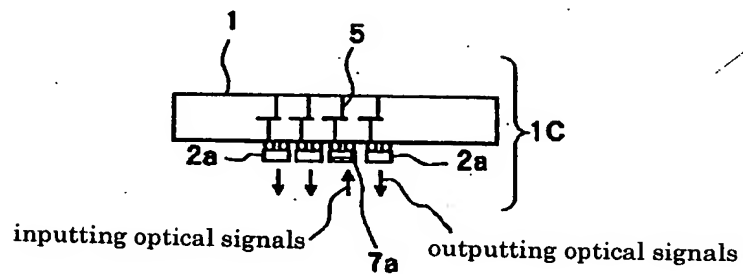


FIG. 9

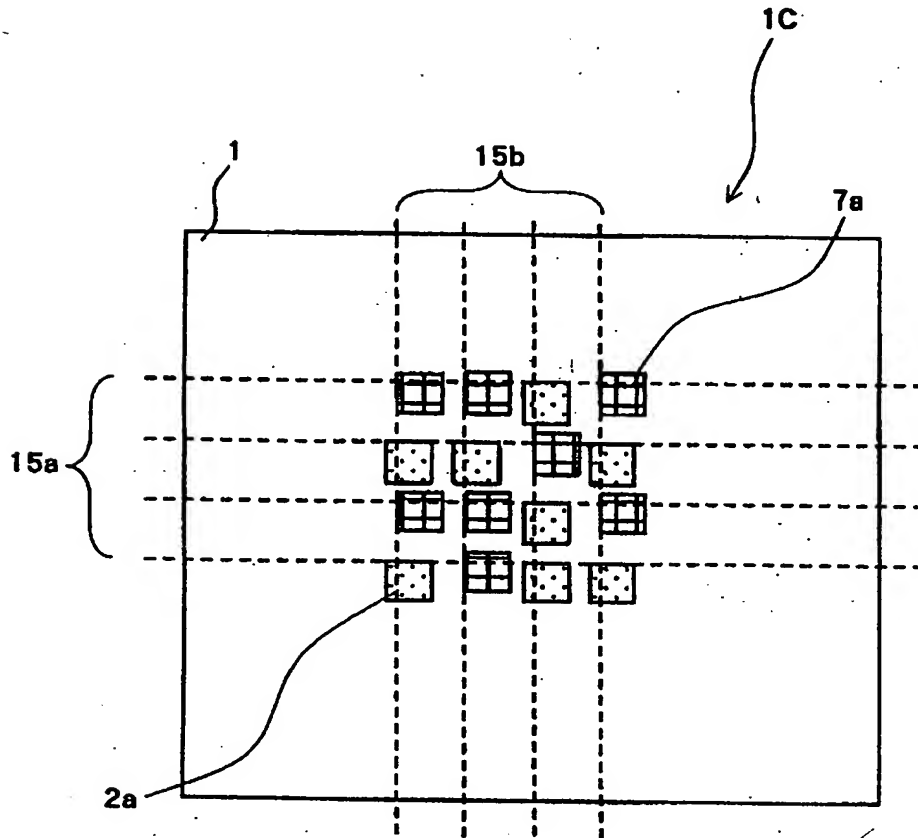
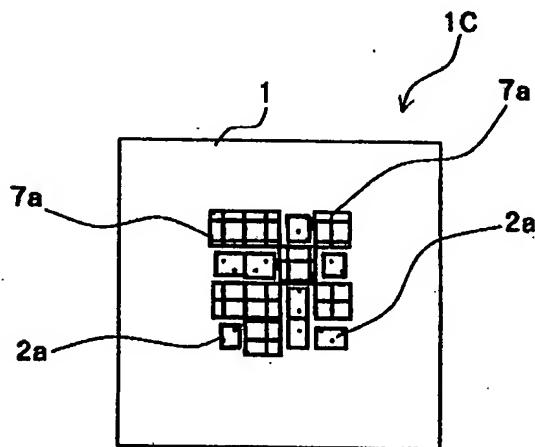


FIG. 10A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

14/29

FIG. 10B

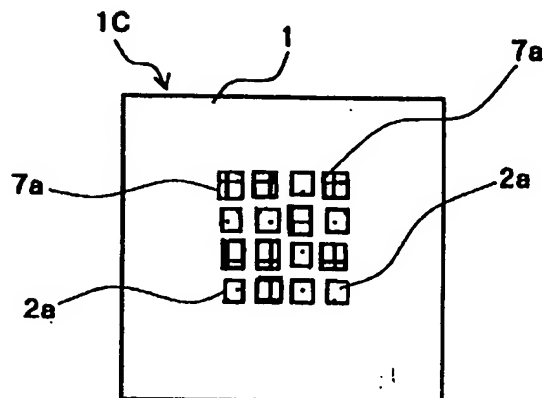


FIG. 10C

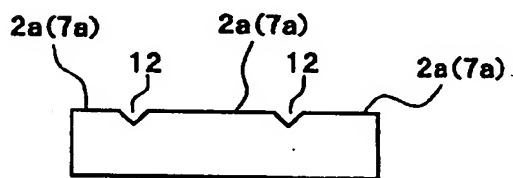
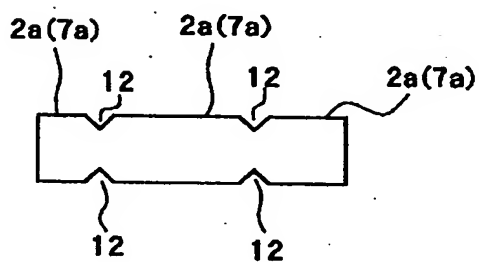


FIG. 10D



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

15/29

FIG. 11A

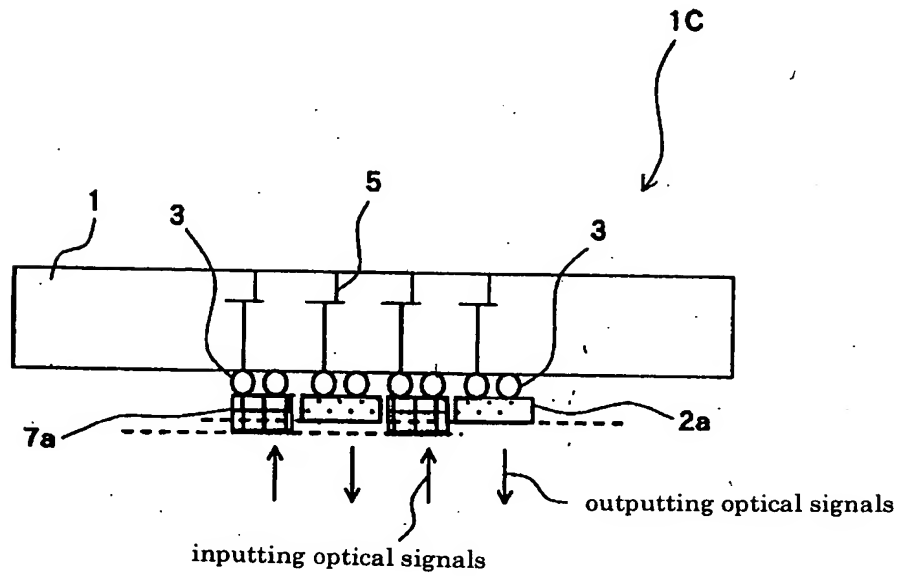


FIG. 11B

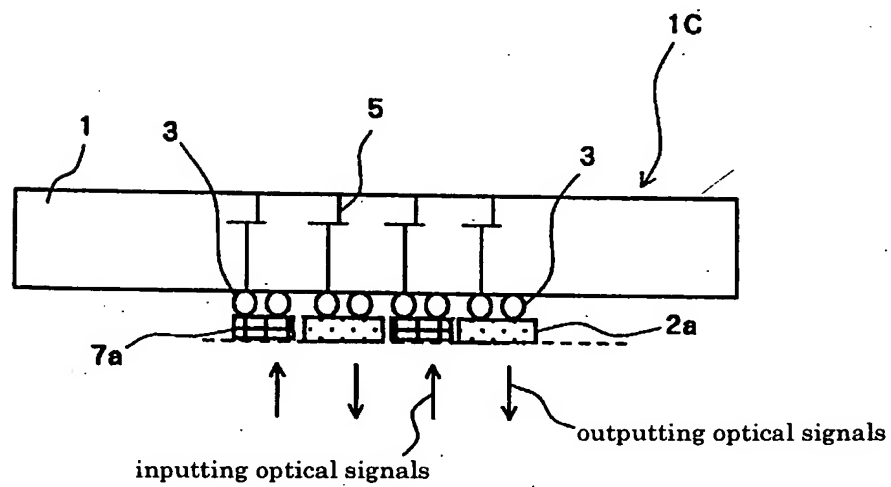


FIG. 12

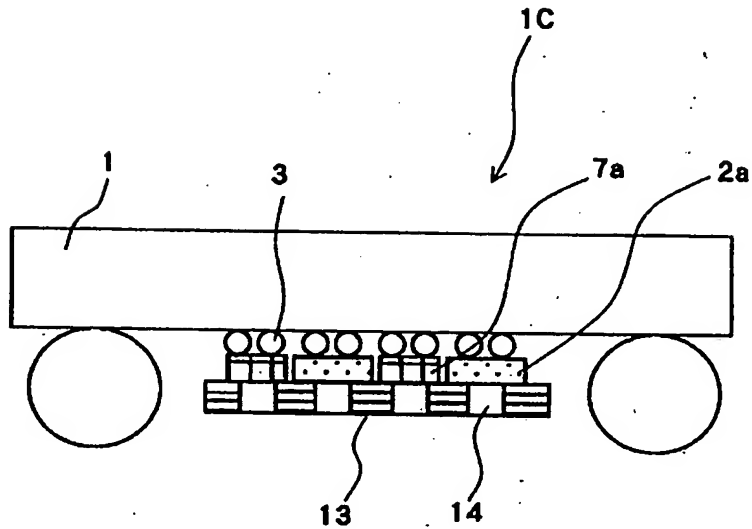


FIG. 13A

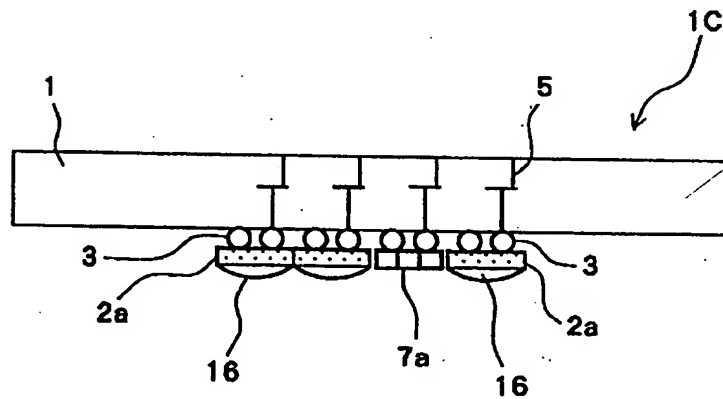
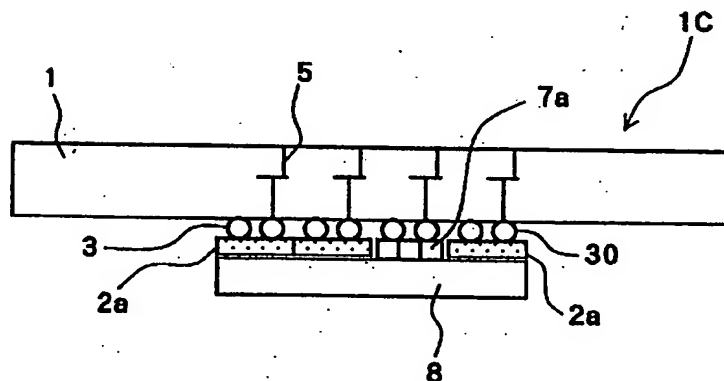


FIG. 13B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

17/29

FIG. 13C

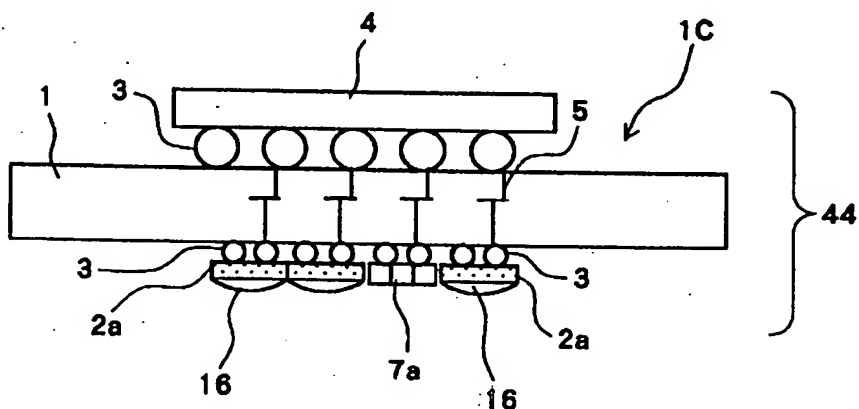


FIG. 14A

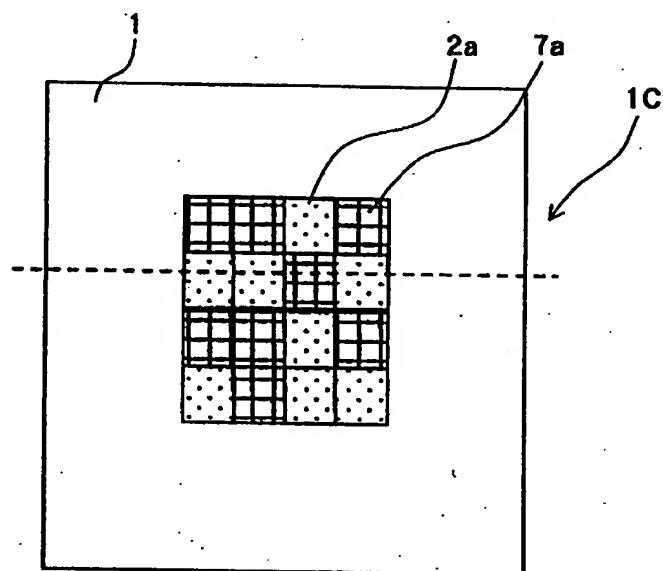
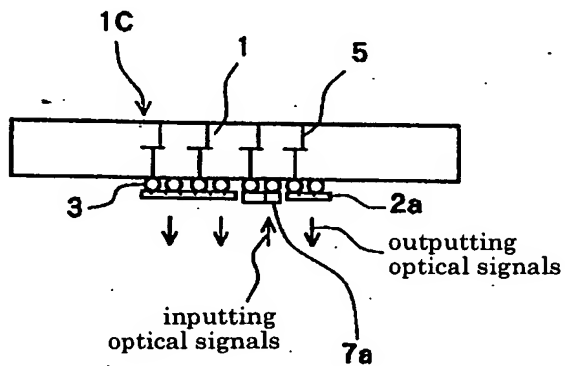


FIG. 14B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

18/29

FIG. 14C

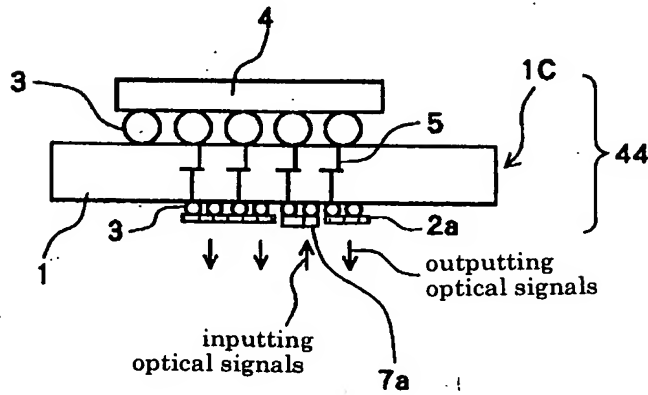


FIG. 15A

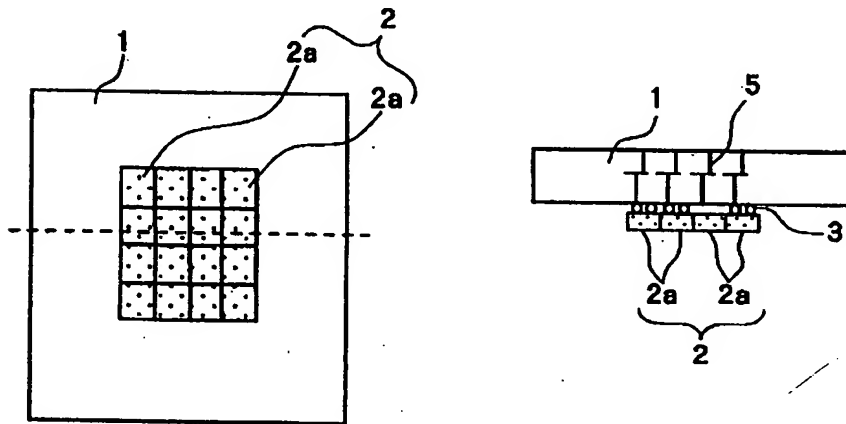


FIG. 15B

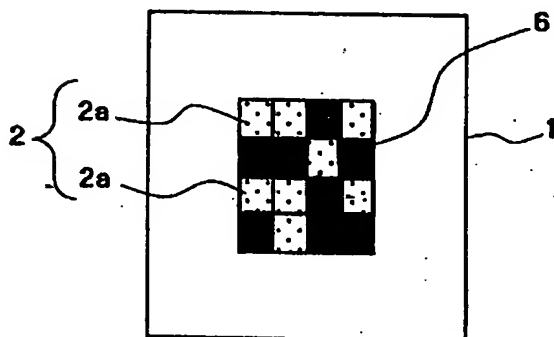


FIG. 15C

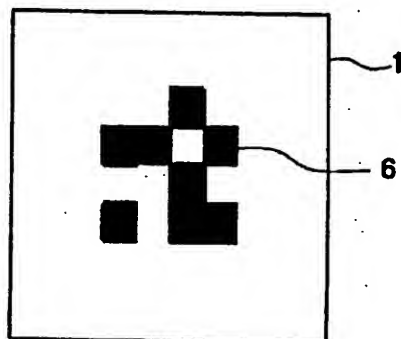


FIG. 15D

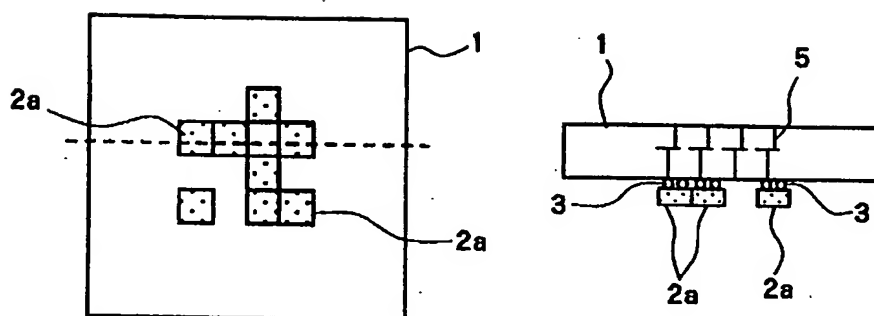
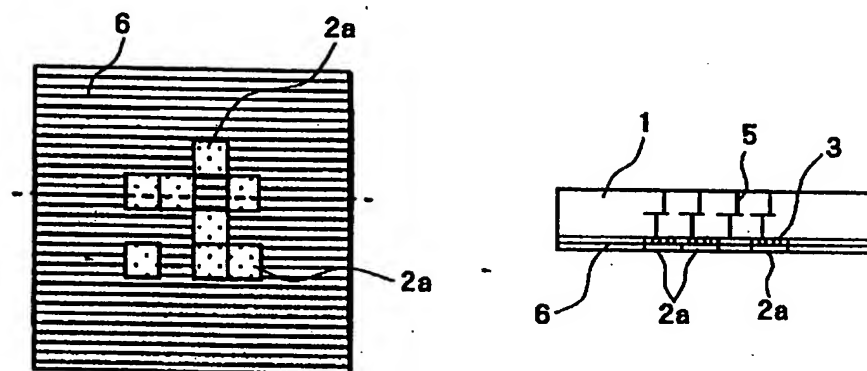


FIG. 15E



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

20/29

FIG. 15F

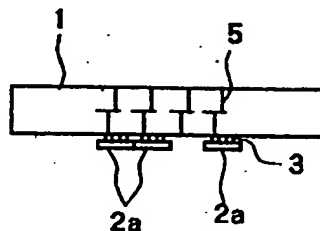
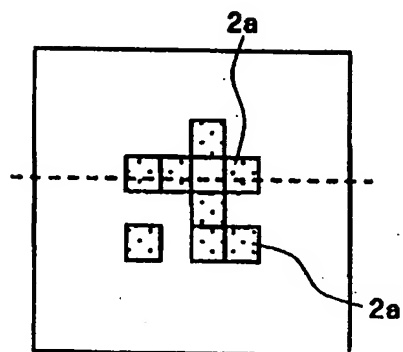


FIG. 15G

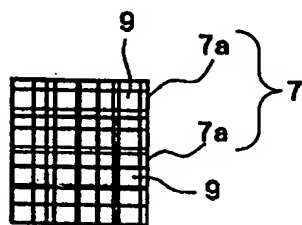


FIG. 15H

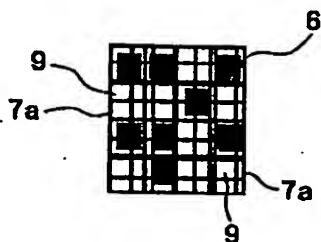
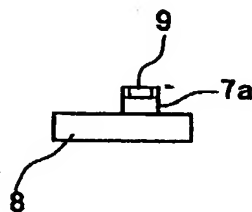
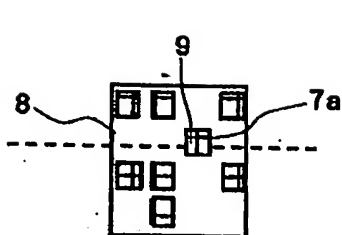


FIG. 15I



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992,

21/29

FIG. 15J

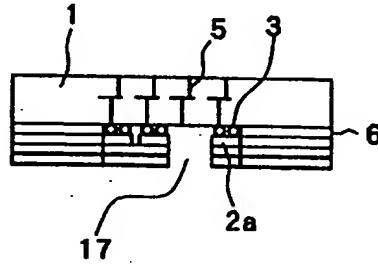


FIG. 15K

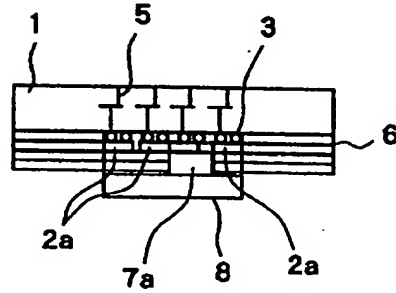


FIG. 15L

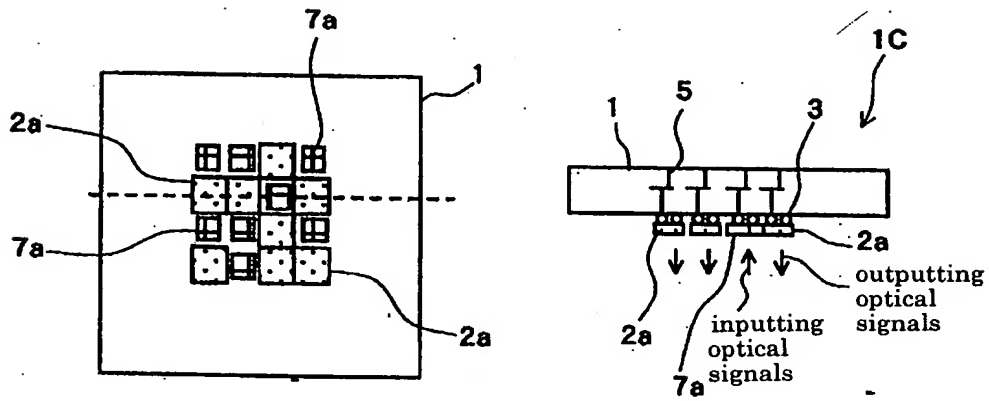


FIG. 16A

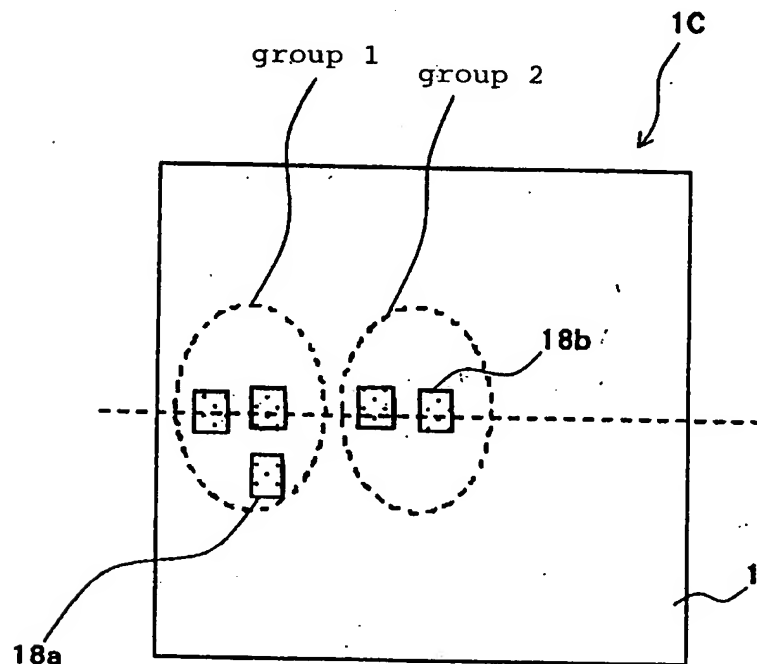


FIG. 16B

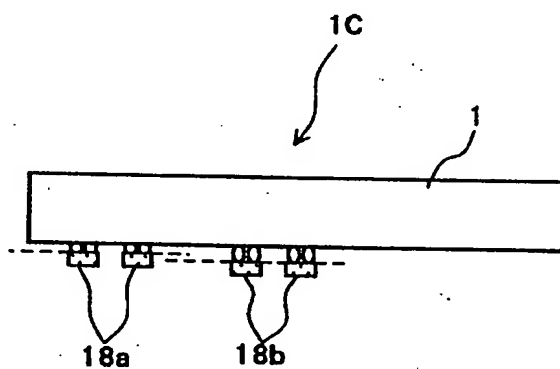


FIG. 17A

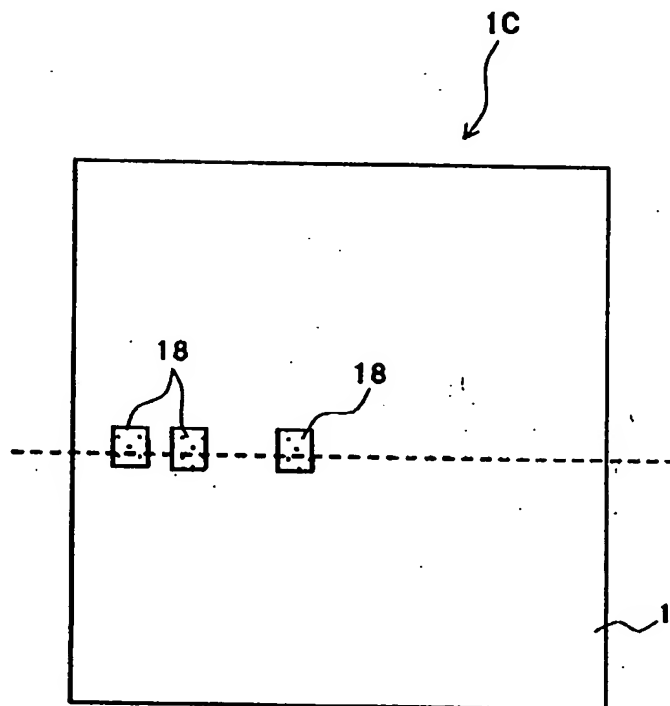


FIG. 17B

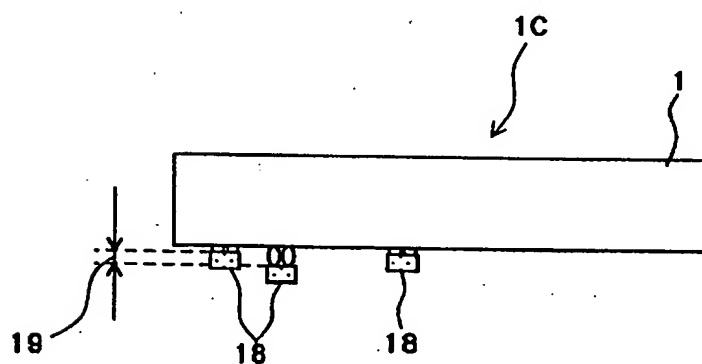


FIG. 18A

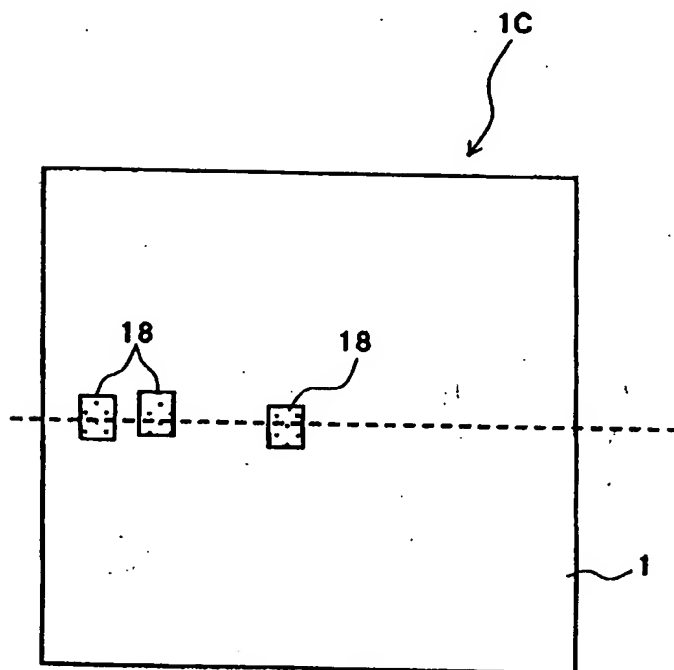


FIG. 18B

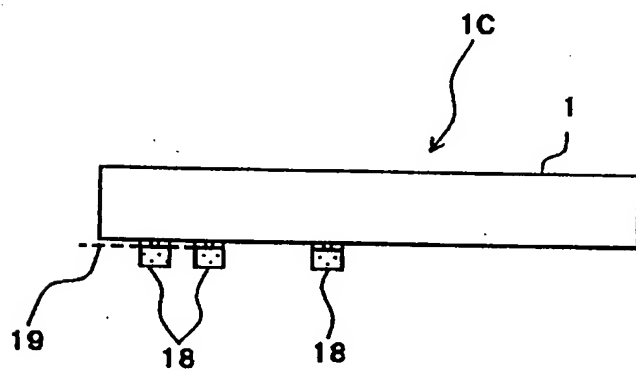


FIG. 19A

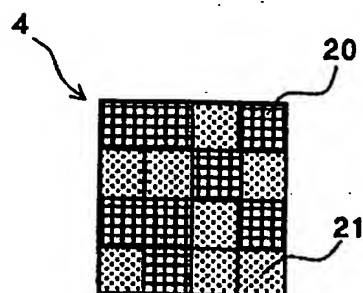


FIG. 19B

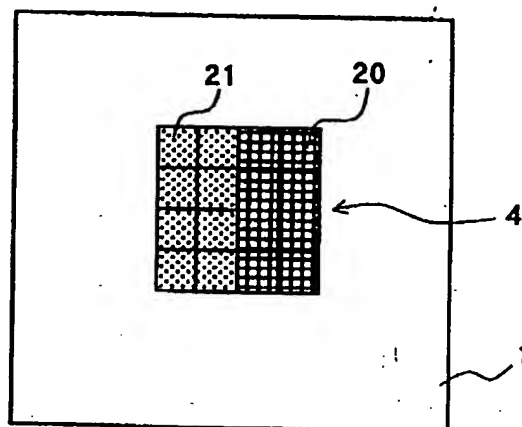


FIG. 19C

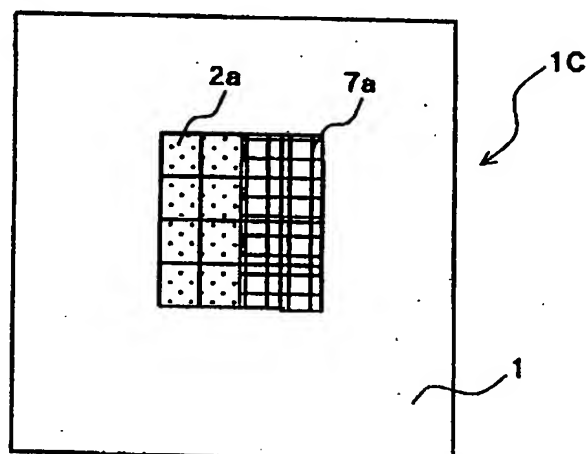


FIG. 20

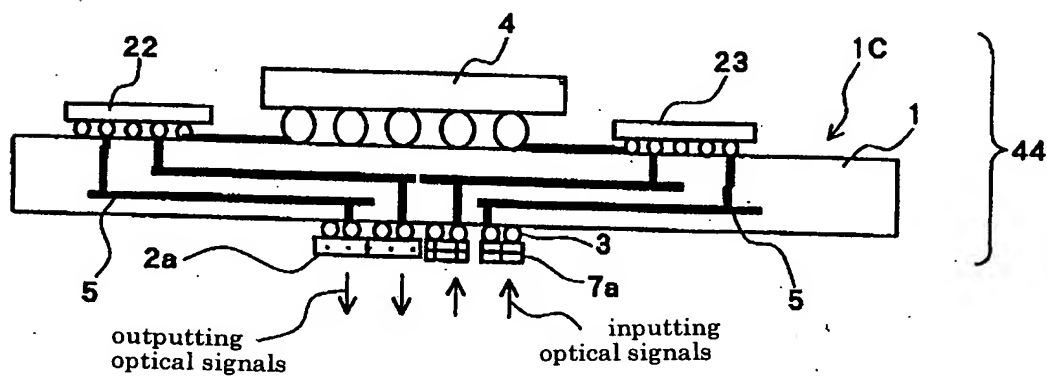


FIG. 21

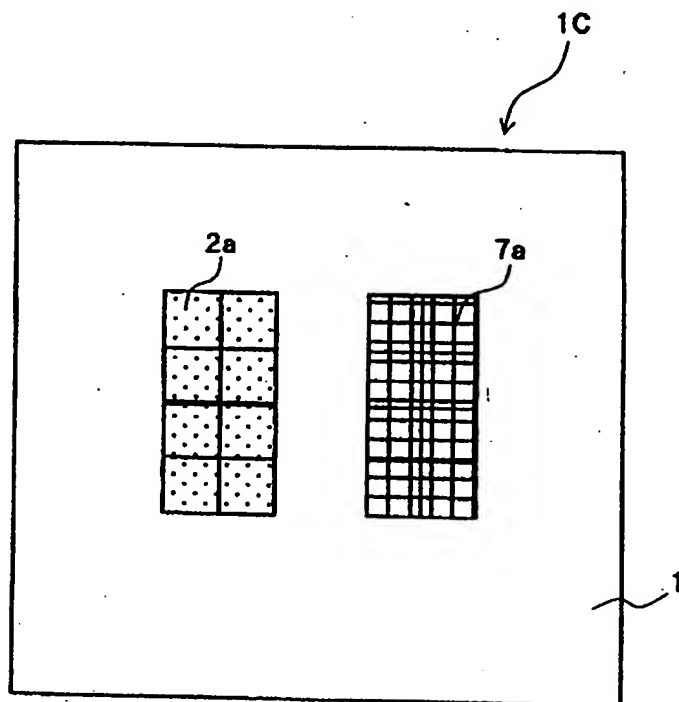
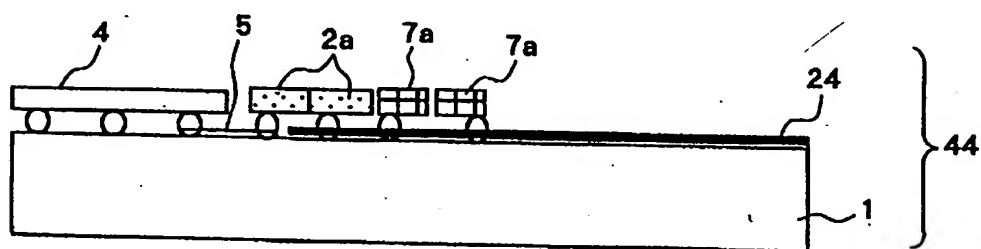


FIG. 22A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

27/29

FIG. 22B

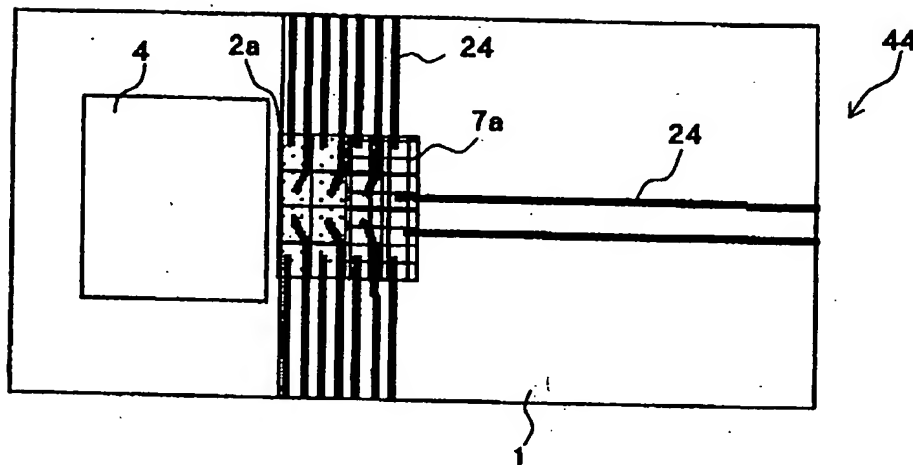


FIG. 23A

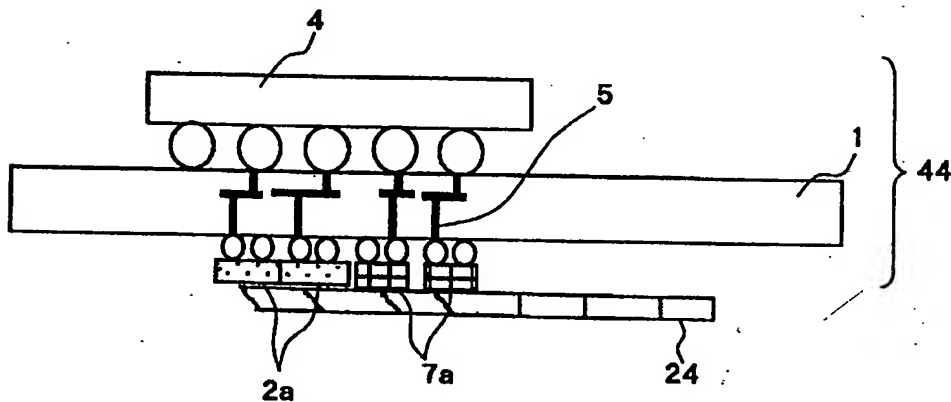


FIG. 23B

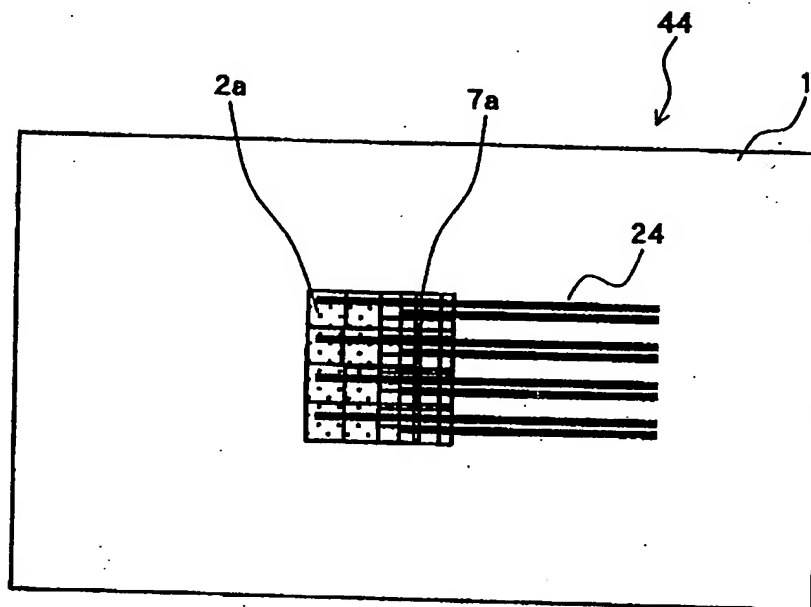
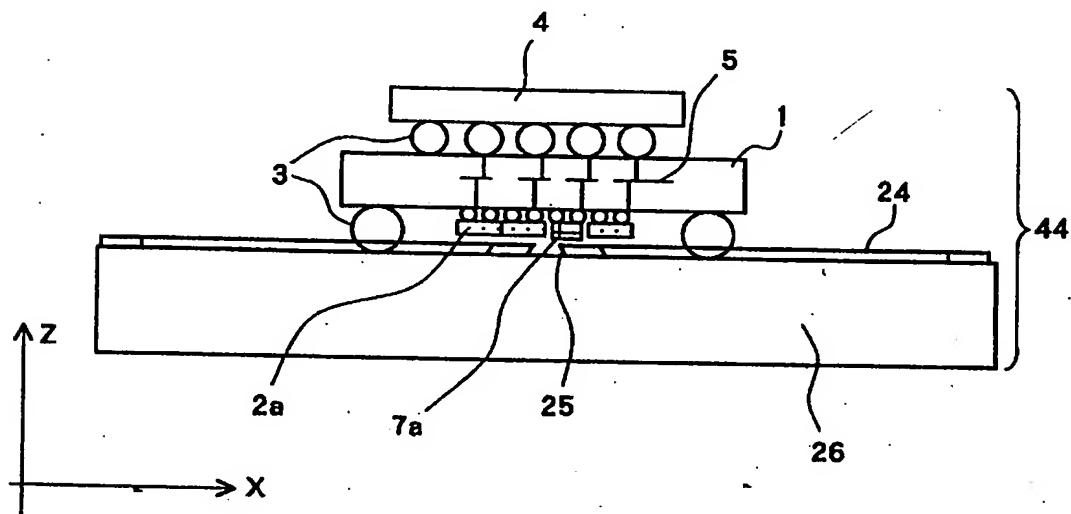


FIG. 24A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT
SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL
ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

Mikio Oda, et al.

1992

29/29

FIG. 24B

